



M/035/0002

Leslie Heppler <lheppler@utah.gov>

RECEIVED E-Mail

## Monthly Flood Restoration Update

2 messages

DEC 03 2013

Div. of Oil, Gas & Mining

Tue, Dec 3, 2013 at 12:38 PM

**Roberts, Leland (KUCC)** <Leland.Roberts@kennebecott.com>

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All,

Please find attached the monthly flood restoration update from Kennecott. At UDOGM's request this is going out early this month and unless there are any objections will be in lieu of the update on 13<sup>th</sup>.

Thanks

Leland

F. Leland Roberts

Environmental Engineer, Refinery - Tailings - UPP

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**Work Scope Table Dec 2 2013.xlsx**

15K

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**Leslie Heppler** <lheppler@utah.gov>

Tue, Dec 3, 2013 at 1:02 PM

To: "Roberts, Leland (KUCC)" <Leland.Roberts@kennebecott.com>

Thank you very much for the early monthly update.

[Quoted text hidden]

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Utah Division of Oil, Gas & Mining

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DEC 03 2013

Div. of Oil, Gas &amp; Mining

**Table 1 Storm Runoff Response Activities**

Updated: 2-Dec-2013

ID	Work Area	Work Scope	Completion Target	Status 12/2/13	Comments
1A	Cutoff Walls	Restore water collection (expose cutoff walls, water collection boxes, clean debris from pipelines)	15-Oct-13	Completed	Initial step in the restoration process was to restore water collection to the cutoff walls, and clean collection boxes and pipelines to reestablish flow to the Eastside collection system.
2A	Upper Basin	Establish minimum 10-year/24-Hour storm capacity	1-Dec-13	Completed	URS provided 10yr 24hr event capacities for the affected basins in cubic yards. Material in excess of these volumes was removed from all the basins. An aerial survey conducted on the 24th of Nov. will be used to verify capacities.
2B	Upper Basin	Re-establish stormwater management capacity to pre-storm levels (See URS report, Feb 24, 2009 Hydrologic assessment of the South End Drainages)	TBD	In process	An aerial survey was conducted on Nov 14, this data will be used to determine what work needs to be completed on the basins in 2014.
2C	Upper Basin	Repair breeches in mine waste dump top berms	1-Nov-13	Completed	Visual survey of berms on top of dumps was conducted, areas of concerns were identified and corrective actions assigned. Corrective actions included grading and berm construction to keep stormwater from the mine from concentrating and running down faces of dumps.
3A	Debris Flow	Remove debris flow material	TBD	Completed with the exception of 3B	Debris flows down gradient of cut-off-walls were removed and placed up gradient of cut-off-walls in Copper Notch area.
3B	Debris Flow	Re-establish down gradient secondary containment to pre-storm levels (See URS report, Feb 24, 2009 Hydrologic Assessment of the South End Drainages)	1-Dec-13	In process, see comments	All basins down gradient of cut-off-walls have been cleaned (Yosemite, Saints Rest and South Saints Rest). Standpipes have been reinstalled in South Saints Rest and Saints Rest. Yosemite repairs are ongoing with expected completion on or before 12/13/2013.
3C	Debris Flow	Re-seed impacted areas	Fall 2014	Expected to be completed in Spring 2014	Dependent on weather some disturbed areas may be re-seeded this month. Complete disturbed area re-seeding will be accomplished in spring of 2014.
4A	Stormwater Canals	Clean sediment from Upper Lined Canal	1-Dec-13	Late December 2013	In process, canal is still in operation, cleaning is on going.
4B	Stormwater Canals	Clean sediment from Lower Lined Canal	1-Dec-13	Late December 2013	In process, canal is still in operation, cleaning is on going.



Table 1 Storm Runoff Response Activities  
Updated: 2-Dec-2013

5A	Butterfield Creek	Map and sample mine waste sediment deposition in riparian areas	1-Nov-13	Completed	In addition to the sediment sampling completed in September, continued weekly samples are collected from Butterfield Creek water. The past month's data for sample site at the Horse/Burro gate indicate clean water and it is available for irrigation purposes. Lead and arsenic concentration measured as Total are less than detection limit.
5B	Butterfield Creek	Evaluate options for management of mine waste material in riparian areas	15-Dec-13	Completed	Addressed in State DNR Steam Alteration as received by DNR on Nov. 22, 2013.
5C	Butterfield Creek	Secure regulatory approvals, as necessary, for riparian area response	ASAP	Acquired 11/15/2013	Approval was received from the USACOE on Nov. 15, 2013. USACOE has numerous criteria that KUC must meet and this criteria was listed and Work Plan was attached. Once this information was provided by Kennecott, then USACOE did not require a permit and the conditions criteria could be passed to DNR. See comments 5B
5D	Butterfield Creek	Implement riparian area response, as necessary	TBD	In process	Riparian work will proceed after removal work is done. Weather may delay sediment removal work and riparian response will likely be completed next spring and the DNR permit will guide process.
6A	Third Party	Identify and map possible mine waste sediment deposition on third party properties	15-Oct-13	Completed	Within a week after the mine sediment deposition, all third parties mapped.
6B	Third Party	Sample possible mine waste sediment on third party properties	1-Nov-13	Completed	Within a week after the mine sediment deposition, all third parties were sampled.
6C	Third Party	Determine appropriate response actions for third parties through discussions with third parties	TBD	In process, see comments	Appropriate response action agreement is pending and tentatively approved by two of the five third party groups.
6D	Third Party	Implement third party property response actions	TBD	In process, see comments	There are five third party groups with two of the five completed and field work completed. Access agreements and response actions are pending with the other three.

TBD = To Be Determined  
ASAP = As Soon As Possible